

## DESCRIPTIONS OF HORSEFLIES FROM MIDDLE AMERICA. I.\*

JAMES S. HINE.

During the continuance of my studies of North American Tabanidæ more or less material has come to hand from southern localities. Panama and the northern parts of South America are of interest as showing the southern limits of distribution of many of the North American species.

Previous to the writing of this paper much time was consumed reading and studying descriptions of species of *Tabanus* of older authors in an attempt to identify such species as I have had in hand but only partial success has attended my efforts. There has accumulated, with what has been received from the United States National Museum and the Philadelphia Academy of Natural Sciences a number of rather obscure species mostly of small size for which descriptions are given in the following pages.

I have followed with interest the work of Dr. Adolpho Lutz on the horseflies of Brazil and am not unacquainted with his generic treatment of the subfamily Tabaninæ. At first it was the intention to arrange my species in genera according to his arrangement but it is evident that if the whole North and South American horsefly fauna is to be harmonized with it more genera will have to be erected, for I found among my material species that do not fit in any so far established. As it does not seem advisable to describe new genera to receive such species until a more comprehensive consideration of the whole fauna is attempted, I have concluded with some reluctance, to consider everything in the genus *Tabanus* in the wide sense.

Since an oversight has allowed a preoccupied name to stand in literature for a number of years, it seems to be advisable to offer the following new generic name:

*STICHOCERA*, new name, to take the place of *Dicrania* and *Dicranomyia*, both of which are names for the same genus. Macquart proposed *Dicrania* in 1834, but it is antedated by *Dicrania* in the order *Coleoptera* 1825. Hunter recognizing this fact in 1900 proposed *Dicranomyia* to replace it, in *Transactions*

---

\* Contribution from Department of Zoology and Entomology, Ohio State University, No. 60.

of the American Entomological Society, XXVII, 135, but *Dicranomyia* had been used by Stephens for a genus of crane-flies in 1829, and a large number of Palearctic as well as Nearctic species are included under it at the present time.

KEY TO SPECIES DESCRIBED IN THIS PAPER.

1. Eyes distinctly hairy.....2  
Eyes bare.....3
2. Abdomen red with a black middorsal stripe. Cross veins of the wings margined plainly with fuscous.....*lautus* n. sp.  
Abdomen dark, each segment with a narrow, white posterior border expanding into a small triangle at the middle of the dorsum.....*punensis* n. sp.
3. Third antennal segment with a long, slender process on basal part.....4  
Third antennal segment with only a prominence on basal part.....8
4. Body unusually robust, wings nearly hyaline.....*validus* n. sp.  
Body of usual form, wings plainly marked with black or brown.....5
5. First posterior cell wide open.....6  
First posterior cell closed.....7
6. Wing crossed by a wide, black band in the region of the stigma, body fuscous,.....*umbratus* n. sp.  
Wing marked with brown in patches from base to apex, body red.....*murreus* n. sp.
7. A hyaline spot in the marginal cell near apex.....*festivus* n. sp.  
No hyaline spot in the marginal cell.....*fulmineus* n. sp.
8. Wings with the cross veins and furcation of the third vein margined with fuscous.....9  
Wings uniform in color or hyaline.....11
9. Abdomen red with a regular black middorsal stripe, first antennal segment enlarged.....*mordax* n. sp.  
Abdomen dark all over, first antennal segment of normal size.....10
10. Legs black, front tibia narrowly white at base, antenna yellow.....*modicus* n. sp.  
Legs largely red, antenna yellow with the annulate portion black.....*furvus* n. sp.
11. Abdomen not striped.....12  
Abdomen striped.....13
12. Thorax striped, legs black.....*tantulus* n. sp.  
Thorax not striped, legs largely reddish.....*bruesii* n. sp.
13. Abdomen red with a middorsal black stripe.....*tacitus* n. sp.  
Abdomen black with a middorsal gray stripe and an additional stripe on either side.....14
14. Wings lightly infuscated all over, subcallus denuded, rather slender species,.....*trivittatus* Linnaeus  
Wings hyaline, subcallus not denuded, small short species.....*curtus* n. sp.

***Tabanus fulmineus* n. sp.**

Length 16 millimeters. Body entirely rust red. Vestiture mostly pale yellowish but black at tip of abdomen. Antennæ and palpi colored like the body, proboscis black at the tip, palpi long and slender nearly as long as the proboscis, first segment of the antenna nearly cylindrical, upper angle of the third segment produced into a long slender process three-fourths as long as the segment; front narrow, sides parallel, frontal callosity widest below, slightly narrowed, slender, elongate, reaching nearly to the vertex. Wings an intense brown, an elongate hyaline spot in the discal cell and a small rounded one in the first submarginal cell just before the branching of the third vein which is devoid of a stump. First posterior cell closed and rather long petiolate.

Legs colored like the body, apical part of front tibia and all the tarsi darker.

Holotype female taken at Gatun, Canal Zone, July, by D. E. Harrower. In my collection.

***Tabanus festivus* n. sp.**

Length 15 millimeters. Whole body yellowish brown abdomen darker towards the tip, palpi slender and elongate nearly as long as the proboscis. First segment of the antenna nearly cylindrical, third segment with the basal process long and slender reaching beyond the beginning of the annulate portion of the segment, front very narrow, sides nearly parallel, frontal callosity elongate and slender, nearly reaching the vertex. Wing glossy yellowish to the stigma and the apical third of the discal cell, from thence to the apex intense brown with the exception of two rather small reniform hyaline spots one in the marginal and the other in the first submarginal cell. Just behind the stigma the color is nearly black, giving the effect of a small rectangular spot. First posterior cell closed.

Holotype female from Gatun, Canal Zone, taken by D. E. Harrower, in my collection.

A paratype from Lion Hill, Canal Zone, taken by August Busck, in the U. S. National Museum.

Two other specimens from Gatun, Canal Zone, and one from Costa Rica.

***Tabanus murreus* n. sp.**

Length 15 millimeters. Color pale yellowish, abdomen slightly darker toward the tip. Apex of the front tibia and its tarsus fuscous. Third segment of the antenna with a long, slender, basal process, palpi long and slender; front very narrow, frontal callosity linear and reaching the vertex. Wing glossy yellowish, more intensely colored on the margins of the veins. Behind the stigma and widening toward the posterior margin is a rather pronounced brown area. Apex of wing from a line drawn from the distal end of the stigma to the tip of the third vein grayish hyaline encroached upon by diffuse brownish in the region of the apex of the first submarginal cell. First posterior cell wide open.

Holotype female from Bartica District, British Guiana, in my collection.

***Tabanus umbratus* n. sp.**

Length 15 millimeters. General color dark brown, darkest toward tip of the abdomen, fourth abdominal segment with a light triangle produced by gray vestiture in the middle of the dorsum with its base on the posterior margin of the segment. Third segment of the antenna with a slender basal process about half as long as the segment, general

color of the whole antenna fuscous; palpi elongate slender slightly more than half as long as the slender proboscis, front rather narrow, frontal callosity widest below and narrowed above reaching about three-fourths of the distance to the vertex. Thorax faintly striped; legs pale brown, tarsi slightly darker; wings hyaline with an irregular fuscous band averaging nearly three millimeters in width extending from the costa to the posterior margin in the region of the stigma. No stump on the anterior branch of the third vein, first posterior cell wide open, most of the anal cell very slightly infuscated.

Holotype female from Huguito, San Mateo, Costa Rico, collected by Pablo Schild. In the U. S. National Museum.

***Tabanus validus* n. sp.**

Total length 16 millimeters. Body unusually robust. Thorax brown with very faint gray stripes, especially anteriorly, abdomen distinctly paler in color than the thorax, but darkened apically and with a very small patch of yellow hairs in the middle of the dorsum on the posterior margin of each of segments two to six. First antennal segment enlarged and produced into a distinct angle dorsally where it is furnished with short black hairs; third segment mostly black with a long slender basal process which is about half the length of the segment. Front narrow, frontal callosity widest below, gradually narrowed above and visible for about three-fifths of the distance to the vertex. Wings nearly hyaline, front border only faintly yellowish, first posterior cell wide open, anterior branch of the third vein without a stump. Legs dark, nearly uniformly colored throughout, hind tibia distinctly ciliate outwardly with a dense row of fine dark hairs.

The species shows some relationship with members of the genus *Stibosoma*.

Holotype female from Higuito, San Mateo, Costa Rico, collected by Pablo Schild. In the U. S. National Museum. Paratype with the same date in my collection. Two other specimens in the U. S. National Museum, one, only 13 millimeters in total length.

***Tabanus modicus* n. sp.**

Total length of the body 11 millimeters. Whole body black with a whitish bloom especially on the thorax and base of the abdomen. Palpi rather slender, pale, with sparse dark colored pile, somewhat shorter than the proboscis. Antenna yellow, first segment slightly produced forward above and furnished with black pile, third segment angulate above near the base and with a tip of black pile but not drawn out into a process. Front moderately narrow, frontal callosity below practically as wide as the front, shining black, widest portion distinctly longer than wide, then gradually narrowed to a line which connects with a shining area at the vertex. Thorax without apparent stripes, wing fuliginous,

darker along costal border and on the margins of the cross veins at apexes of the basal and discal cells and at the furcation of the third vein. First posterior cell wide open anterior branch of the third vein without an appendage. Legs black, front tibia narrowly white at the base.

Holotype female from British Guiana, in my collection.

***Tabanus mordax* n. sp.**

Total length 16 millimeters. Abdomen bright reddish yellow on the sides and with a regular black middorsal stripe at least a millimeter in width. The seventh abdominal segment is wholly dark brown both above and below and the extreme lateral edges of most of the other abdominal segments is of the same color, and there is a midventral black stripe also, so the dorsal and ventral views present almost exactly the same coloration. First antennal segment mostly reddish distinctly enlarged above somewhat produced forward and furnished with short black pile, third segment dark, only very slightly reddish at the extreme base, basally with a distinct angle above but not produced. Palpi reddish, rather slender, about two-thirds as long as the dark colored proboscis. Front of average width, frontal callosity widest below where it is distinctly narrower than the front, narrowed gradually above and reaching two-thirds of the distance to the vertex. Legs fuscous except all the tibiae are reddish on basal half or more. Wings reddish hyaline, all the cross veins and furcation of the third vein narrowly margined with fuscous. Anterior branch of the third vein with a very short stump near its base.

Holotype female from Sapucay, Paraguay, collected in February by W. T. Foster. In the U. S. National Museum. Paratype from the same locality in my collection.

***Tabanus furvus* n. sp.**

Total length 11 millimeters. Thorax and abdomen nearly uniformly dark brown with a very small area of lighter color on each side of the basal part of the second abdominal segment. Antenna mostly yellow, annulate portion of the third segment black; first segment, of normal size with just a slight tip of black hair anteriorly above, base of the third segment bluntly angulate above, palpi slender, pale, black haired little more than half as long as the dark colored proboscis. Front of median width, sides parallel, frontal callosity shining black, below not quite so wide as the front, sides parallel for a short distance then quite abruptly narrowed to a line which reaches two-thirds of the distance to the vertex but does not connect with a black shining spot at the vertex. Front leg dark except the tibia which is pale on basal half. Middle and hind legs almost entirely reddish, femora slightly darkened basally. Wings fuliginous hyaline, distinctly fuscous on the margins of the cross veins and furcation of the third vein. Anterior branch of the third vein without a stump.

Holotype female from Songo, Bolivia, in my collection.

**Tabanus trivittatus** Fabricius.

Length 12 millimeters. A dark colored rather slender species. Thorax without stripes but with more or less greenish iridescent vestiture. Abdomen dorsally with a little reddish on the sides of the first two segments and with three narrow pale longitudinal stripes, one on the middorsum and one on either side of it. Ventrally abdomen quite broadly red basally. Front narrow, narrower below than at the vertex, frontal callosity nearly as wide as the front and nearly twice as high as wide and without or with only an obscure line above it; subcallus denuded and shining dark brown. Antenna yellow, first segment darker slightly enlarged and produced anteriorly above, third segment with a small tooth near the base above, annulate portion short, only about half as long as the basal portion. Palpi robust nearly as long as the proboscis which is shorter than usual. Wings uniform fuliginous all over, first posterior cell wide open, no stump on the anterior branch of the third vein. Femora and tarsi all black, front tibia white on basal three-fifths, black beyond; middle and hind tibia pale, black only at the extreme apex of each.

I have more than a score of specimens of this species from Bartica, British Guiana, and from other adjacent localities, many of them collected by H. S. Parish. The species answers the description of *trivittatus* almost in detail.

**Tabanus curtus** n. sp.

Total length 9 millimeters. Front gray, of medium width, very slightly narrowed below, frontal callosity shining dark brown, nearly square, a disconnected fine line above continued for a short distance only. Antenna yellow, first segment somewhat enlarged, gray pollinose, black haired above; third segment rather wide with a basal angle above, annulate portion shorter than the basal portion; palpi white, robust, with scattering black hairs. Thorax dark dorsally without stripes, clothed with gray vestiture especially laterally and ventrally. Femora black basally, more or less reddish apically, front tibia white on basal three-fifths, otherwise black, middle and hind tibiae red, tarsi all dark, front ones black. Wings hyaline, first posterior cell wide open, no stump on the anterior branch of the third vein. Abdomen with a prominent middorsal gray stripe and one on either side of it of the same color and of equal width, intervals dark brown, venter fuscous with reddish showing through in places and with red hind margins to the segments.

Holotype female from Pedernales, Venezuela, January 25, 1911, collected by S. Brown. In the collection of the Philadelphia Academy of Natural Sciences. Paratype in my collection.

**Tabanus tantulus** n. sp.

Total length 10 millimeters. Thorax dark with four gray stripes, the lateral ones just above the attachment of the wings, the median ones located one on either side of the middorsal line, pleura and below white

pollinose. Abdomen above dark with a gray pollinose posterior margin to each segment slightly widest on the middorsal line; ventrally similarly colored. Front gray of medium width, frontal callosity shining black, elevated, widest below where it is only slightly narrower than the front, gradually narrowed above and reaching only a little more than half way to the vertex. Antenna reddish brown, somewhat fuscous, first segment somewhat enlarged, third segment with a prominent angle at base above, wide annulate portion elongate, longer than the basal portion. Palpi slender, almost as long as the black proboscis. Wings hyaline, a very short stump near the base of the anterior branch of the third vein, first posterior cell wide open; legs entirely black in all their parts.

Holotype female from Mallali, British Guiana, April 31, 1907. In my collection.

***Tabanus bruesii* n. sp.**

Total length 9 millimeters. Body dark grayish fuscous all over. Thorax without stripes but clothed with gray vestiture. Abdomen dorsally dark with a narrow pale posterior border to each segment, ventrally similar. Front wide, frontal callosity as wide as the front, wider than high, shining black, rectangular, above with a short connected line which almost but not quite reaches a wide shining black broadly cordate spot at vertex. Antenna nearly black, small, slender, first segment nearly cylindrical, third segment with almost no basal prominence above, annulate portion shorter than the basal portion. Palpi white, robust, very short, nearly the same length as the very short black proboscis. Wings hyaline, no stump on the anterior branch of the third vein, first posterior cell wide open. Legs mostly pale, femora with darker streaks, extreme tips of tibiæ, especially the front ones, and all the tarsi somewhat darker in coloration.

Holotype female from San Bartolome, Peru, July, 1913, collected by C. T. Brues. In my collection.

***Tabanus tacitus* n. sp.**

Total length 15 millimeters. Thorax dark narrowly striped with reddish brown. Abdomen above red with a narrow black middorsal stripe, lateral margins of the segments narrowly black and furnished with black pile; ventrally the color is similar to the dorsum. Front of medium width, sides parallel, yellowish gray pollinose, frontal callosity dark brown, widest below, scarcely as wide as the front, gradually narrowed to a line above reaching to three-fifths of the distance to the vertex. Antenna prominent, first segment reddish, enlarged, produced on the upper anterior border and furnished with short black pile. Third segment black, basally above with a distinct angle which is not produced, annulate portion about equal in length to the basal portion. Palpi rather slender, elongate, nearly as long as the black proboscis. Wings pale reddish hyaline, anterior branch of the third vein with a

short stump, first posterior cell wide open, no distinct infuscation on the cross veins and furcation of the third vein. Femora nearly black except at extreme apexes which are pale, middle and hind tibiae reddish, front tibia pale on basal part infuscated on apical half, all the tarsi infuscated.

Holotype and one paratype from Montevideo, Uruguay. Holotype female in the U. S. National Museum, paratype in my collection.

***Tabanus lautus* n. sp.**

Length 13 millimeters. Eyes densely hairy. Thorax dark, obscurely striped and rather densely light pollinose. Abdominal dorsum red with a blackish irregular stripe on the middle line. Venter similar but the blackish is more diffuse and quite evident along the lateral margins of the segments. Front wide, sides clearly parallel, frontal callosity small, reddish rounded, convex, located at the lower angle of the eyes and without a linear extension above. Antenna clear black, first segment nearly cylindrical, third segment wide at the base, distinctly angulate on the dorsal side, annulate portion shorter than the basal portion. Wings faintly reddish hyaline with margins of the cross veins and the furcation of the third vein distinctly infuscated. Anterior branch of the third vein with a very short stump on one side but none on the other. First posterior cell wide open, front femur nearly black, others slightly infuscated, front tibia reddish basally, infuscated on the apical half, other tibiae red, all of the tarsi infuscated, the front ones quite dark.

Holotype female from Metucana, Peru, Summer of 1913, altitude 7300 feet, collected by C. T. Brues. In my collection.

***Tabanus punensis* n. sp.**

Total length 13 millimeters. Eyes densely hairy. Front wide, sides parallel, frontal callosity as wide as the front, transverse, distinctly wider than high, no line above, a partially denuded spot at the vertex, antenna mostly black, first segment partly reddish with long and prominent black hairs, third segment small prominent above but not with a distinct angle, annulate portion about equal to the basal portion. Thorax dark faintly gray striped, wings hyaline veins dark brown, anterior branch of the third vein without a stump, first posterior cell wide open. All the femora black, front tibia with the basal third red remainder infuscated, middle and hind tibia red with extreme apexes infuscated, all the tarsi slightly infuscated. Dorsally abdomen black with each of the segments narrowly margined posteriorly with gray which is expanded at the middle into a well marked triangle; ventrally mostly red with base and apex and extending out along the midventral line diffuse brownish.

Holotype female from Puno, Peru, November 2, 1898. In my collection.

Ohio State University, Columbus, Ohio.